WHAT IS CLAIMED IS:

1. A method for screening lubricating oil composition samples for dispersancy performance, under program control, comprising:

(a) providing a plurality of different lubricating oil composition samples, each sample comprising (i) a major amount of at least one base oil of lubricating viscosity, (ii) a minor amount of at least one lubricating oil additive and (iii) a predetermined amount of a base oil-insoluble material;

(b) measuring the dispersancy performance of each test sample to provide corresponding dispersancy performance data results; and,

(c) outputting the results of step (b).

2. The method of claim 1, wherein the base oil is a natural or synthetic oil.

3. The method of claim 1, wherein the at least one lubricating oil additive is selected from the group consisting of antioxidants, anti-wear agents, detergents, rust inhibitors, dehazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package compatibilisers, corrosion-inhibitors, ashless dispersants, dyes, extreme pressure agents and mixtures thereof.

4. The method of claim 1, wherein the at least one lubricating oil additive is an ashless dispersant.

5. The method of claim 3, wherein the dispersant is selected from the group consisting of polyalkylene succinic anhydrides; non-nitrogen containing derivatives of a polyalkylene succinic anhydride; a basic nitrogen compound selected from the group consisting of succinimides, carboxylic acid amides, hydrocarbyl monoamines, hydrocarbyl polyamines, Mannich bases, phosphonamides, thiophosphonamides and phosphoramides, thiazoles, triazoles, copolymers which contain a carboxylate ester with one or more additional polar function, borate post-treated succinimides, ethylene carbonate post-treated succinimides and mixtures thereof.

6. The method of claim 1, wherein the base oil-insoluble material is a polar, base oil-insoluble material.

7. The method of claim 6, wherein the polar, base oil-insoluble material is sludge.

8. The method of claim 7, wherein the sludge is recovered, used engine oil.

10. The method of claim 7, wherein the step of measuring the dispersancy performance of each sample comprises measuring the kinematic viscosity of each sample at a predetermined temperature.

11. The method of claim 10, further comprising:

providing corresponding lubricating oil composition reference samples containing no base oil-insoluble material;

measuring the kinematic viscosity of the corresponding reference samples; and

determining the percentage difference between the kinematic viscosity of the lubricating oil composition sample and the corresponding lubricating oil composition reference sample.

12. The method of claim 1, wherein the base oil-insoluble material is selected from the group consisting of natural soot, synthetic soot, varnish-forming material, water and mixtures thereof.

13. The method of claim 6, wherein the polar, base oil-insoluble material is selected from the group consisting of natural soot, synthetic soot, varnish-forming material, water and mixtures thereof.

14. The method of claim 12, wherein the base oil-insoluble material is natural or synthetic soot.

15. The method of claim 14, wherein the synthetic soot is carbon black.

16. The method of claim 12, wherein the step of measuring the dispersancy performance of each sample comprises applying to a respective piece of a chromatographic material at least one spot of each sample, permitting the spot to elute into concentric rings, measuring an outer diameter of each ring and an inner diameter of each ring, calculating a ratio of inner diameter to outer diameter for the rings and calculating dispersancy performance data based upon the ratios for the rings.

17. The method of claim 16, wherein the step of measuring the outer diameter of each ring and the inner diameter of each ring comprises transmitting a light through light and dark areas of the chromatographic material.

18. The method of claim 12, wherein the step of measuring the dispersancy performance of each sample comprises dividing the sample into first and second portions, adding a predetermined amount of water to the second portion, applying to respective pieces of a chromatographic material at least three spots of each of the first and second portions of sample, heating selected spots to a predetermined temperature for a predetermined period of time, permitting the spots to elute into concentric rings, measuring an outer diameter of each ring and an inner diameter of each ring, calculating a ratio of inner diameter to outer diameter for the rings and calculating dispersancy performance data based upon the ratios for the rings.

19. The method of claim 16, wherein the chromatographic material is filter paper.

20. The method of claim 1, wherein the lubricating oil composition samples have a volume of no more than about 50 ml.

21. The method of claim 1, wherein the lubricating oil composition samples have a volume of no more than about 20 ml.

22. The method of claim 1, wherein the lubricating oil composition samples have a volume of no more than about 15 ml.

23. The method of claim 1, wherein the lubricating oil composition samples have a volume of no more than about 10 ml.

24. The method of claim 1, further comprising the step of homogenizing the samples prior to measuring the dispersancy performance.

25. The method of claim 24, wherein the step of homogenizing the samples is performed by mechanical stirring.

26. The method of claim 24, wherein the step of homogenizing samples is performed by ultrasonic agitation.

27. The method of claim 1, wherein the step (c) of automatically outputting the results of step (b) comprises converting the dispersancy performance data of step (b) into a digital signal and sending the digital signal to a microprocessor.

28. The method of claim 26, further comprising the steps of compiling the dispersancy performance data sent to the microprocessor in an electronically stored database and constructing therefrom a combinatorial lubricating oil composition library.

29. The method of claim 1, wherein the at least one lubricating oil additive further comprises a diluent oil.

30. A system for screening lubricant performance, under program control, comprising:

a) a plurality of test receptacles, each receptacle containing a different lubricating oil composition sample comprising (i) a major amount of at least one base oil of lubricating viscosity, (ii) a minor amount of at least one lubricating oil additive and (iii) a predetermined amount of a base oil-insoluble material;

b) receptacle moving means for individually positioning the test receptacles in a testing station for measurement of dispersancy performance of the respective sample; and,

c) means for measuring the dispersancy performance of the sample in the testing station to obtain dispersancy performance data associated with the sample and for transferring the dispersancy performance data to a computer controller.

31. The system of claim 30, wherein the receptacle moving means comprises a movable carriage.

32. The system of claim 30, wherein the receptacle moving means comprises a robotic assembly having a movable arm for grasping and moving a selected individual receptacle.

33. The system of claim 30, wherein the receptacle moving means comprises means for agitating the test receptacles.

34. The system of claim 30, wherein each test receptacle has a bar code affixed to an outer surface thereof.

35. The system of claim 34, further comprising a bar code reader.

36. The system of claim 30, wherein the base oil of lubricating viscosity is a natural or synthetic oil.

37. The system of claim 30, wherein the at least one lubricating oil additive is selected from the group consisting of antioxidants, anti-wear agents, detergents, rust inhibitors, dehazing agents, demulsifying agents, metal deactivating agents, friction modifiers, pour point depressants, antifoaming agents, co-solvents, package

compatibilisers, corrosion-inhibitors, ashless dispersants, dyes, extreme pressure agents and mixtures thereof.

38. The system of claim 30, wherein the at least one lubricating oil additive is an ashless dispersant.

39. A combinatorial lubricating oil composition library comprising lubricating oil composition dispersancy data for a plurality of different lubricating oil compositions comprising (a) a major amount of a base oil of lubricating viscosity and (b) at least one lubricating oil additive.